

## SEQUENCE LISTING

<110> Daiichi Suntory Pharma Co., Ltd.

<120> Method for expansion of pluripotent stem cells

<130> DSTY-R678/PCT (fP05-02W0-1)

<160> 24

<170> PatentIn version 3.1

<210> 1

<211> 882

<212> PRT

<213> Human E-cadherin

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<222> (157)..(262)

<223> EC1

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<222> (265)..(375)

<223> EC2

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<222> (378)..(486)

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<222> (487)..(595)  
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<223> EC5

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Val Ser Ser Trp Leu Cys Gln Glu Pro Glu Pro Cys His Pro Gly Phe  
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Asp Ala Glu Ser Tyr Thr Phe Thr Val Pro Arg Arg His Leu Glu Arg  
35 40 45

Gly Arg Val Leu Gly Arg Val Asn Phe Glu Asp Cys Thr Gly Arg Gln  
50 55 60

Arg Thr Ala Tyr Phe Ser Leu Asp Thr Arg Phe Lys Val Gly Thr Asp  
65 70 75 80

Gly Val Ile Thr Val Lys Arg Pro Leu Arg Phe His Asn Pro Gln Ile  
85 90 95

His Phe Leu Val Tyr Ala Trp Asp Ser Thr Tyr Arg Lys Phe Ser Thr  
100 105 110

Lys Val Thr Leu Asn Thr Val Gly His His His Arg Pro Pro Pro His  
115 120 125

Gln Ala Ser Val Ser Gly Ile Gln Ala Glu Leu Leu Thr Phe Pro Asn  
130 135 140

Ser Ser Pro Gly Leu Arg Arg Gln Lys Arg Asp Trp Val Ile Pro Pro  
145 150 155 160

Ile Ser Cys Pro Glu Asn Glu Lys Gly Pro Phe Pro Lys Asn Leu Val  
165 170 175

Gln Ile Lys Ser Asn Lys Asp Lys Glu Gly Lys Val Phe Tyr Ser Ile  
180 185 190

Thr Gly Gln Gly Ala Asp Thr Pro Pro Val Gly Val Phe Ile Ile Glu  
195 200 205

Arg Glu Thr Gly Trp Leu Lys Val Thr Glu Pro Leu Asp Arg Glu Arg  
210 215 220

Ile Ala Thr Tyr Thr Leu Phe Ser His Ala Val Ser Ser Asn Gly Asn  
225 230 235 240

Ala Val Glu Asp Pro Met Glu Ile Leu Ile Thr Val Thr Asp Gln Asn  
245 250 255

Asp Asn Lys Pro Glu Phe Thr Gln Glu Val Phe Lys Gly Ser Val Met  
260 265 270

Glu Gly Ala Leu Pro Gly Thr Ser Val Met Glu Val Thr Ala Thr Asp  
275 280 285

Ala Asp Asp Asp Val Asn Thr Tyr Asn Ala Ala Ile Ala Tyr Thr Ile  
290 295 300

Leu Ser Gln Asp Pro Glu Leu Pro Asp Lys Asn Met Phe Thr Ile Asn  
305 310 315 320

Arg Asn Thr Gly Val Ile Ser Val Val Thr Thr Gly Leu Asp Arg Glu  
325 330 335

Ser Phe Pro Thr Tyr Thr Leu Val Val Gln Ala Ala Asp Leu Gln Gly  
340 345 350

Glu Gly Leu Ser Thr Thr Ala Thr Ala Val Ile Thr Val Thr Asp Thr  
355 360 365

Asn Asp Asn Pro Pro Ile Phe Asn Pro Thr Thr Tyr Lys Gly Gln Val  
370 375 380

Pro Glu Asn Glu Ala Asn Val Val Ile Thr Thr Leu Lys Val Thr Asp  
385 390 395 400

Ala Asp Ala Pro Asn Thr Pro Ala Trp Glu Ala Val Tyr Thr Ile Leu  
405 410 415

Asn Asp Asp Gly Gly Gln Phe Val Val Thr Thr Asn Pro Val Asn Asn  
420 425 430

Asp Gly Ile Leu Lys Thr Ala Lys Gly Leu Asp Phe Glu Ala Lys Gln  
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Gln Tyr Ile Leu His Val Ala Val Thr Asn Val Val Pro Phe Glu Val  
450 455 460

Ser Leu Thr Thr Ser Thr Ala Thr Val Thr Val Asp Val Leu Asp Val  
465 470 475 480

Asn Glu Ala Pro Ile Phe Val Pro Pro Glu Lys Arg Val Glu Val Ser  
485 490 495

Glu Asp Phe Gly Val Gly Gln Glu Ile Thr Ser Tyr Thr Ala Gln Glu  
500 505 510

Pro Asp Thr Phe Met Glu Gln Lys Ile Thr Tyr Arg Ile Trp Arg Asp  
515 520 525

Thr Ala Asn Trp Leu Glu Ile Asn Pro Asp Thr Gly Ala Ile Ser Thr  
530 535 540

Arg Ala Glu Leu Asp Arg Glu Asp Phe Glu His Val Lys Asn Ser Thr  
545 550 555 560

Tyr Thr Ala Leu Ile Ile Ala Thr Asp Asn Gly Ser Pro Val Ala Thr  
565 570 575

Gly Thr Gly Thr Leu Leu Leu Ile Leu Ser Asp Val Asn Asp Asn Ala  
580 585 590

Pro Ile Pro Glu Pro Arg Thr Ile Phe Phe Cys Glu Arg Asn Pro Lys  
595 600 605

Pro Gln Val Ile Asn Ile Ile Asp Ala Asp Leu Pro Pro Asn Thr Ser  
610 615 620

Pro Phe Thr Ala Glu Leu Thr His Gly Ala Ser Ala Asn Trp Thr Ile  
625 630 635 640

Gln Tyr Asn Asp Pro Thr Gln Glu Ser Ile Ile Leu Lys Pro Lys Met  
645 650 655

Ala Leu Glu Val Gly Asp Tyr Lys Ile Asn Leu Lys Leu Met Asp Asn  
660 665 670

Gln Asn Lys Asp Gln Val Thr Thr Leu Glu Val Ser Val Cys Asp Cys  
675 680 685

Glu Gly Ala Ala Gly Val Cys Arg Lys Ala Gln Pro Val Glu Ala Gly  
690 695 700

Leu Gln Ile Pro Ala Ile Leu Gly Ile Leu Gly Gly Ile Leu Ala Leu  
705 710 715 720

Leu Ile Leu Ile Leu Leu Leu Leu Leu Phe Leu Arg Arg Arg Ala Val  
725 730 735

Val Lys Glu Pro Leu Leu Pro Pro Glu Asp Asp Thr Arg Asp Asn Val  
740 745 750

Tyr Tyr Tyr Asp Glu Glu Gly Gly Gly Glu Glu Asp Gln Asp Phe Asp  
755 760 765

Leu Ser Gln Leu His Arg Gly Leu Asp Ala Arg Pro Glu Val Thr Arg  
770 775 780

Asn Asp Val Ala Pro Thr Leu Met Ser Val Pro Arg Tyr Leu Pro Arg  
785 790 795 800

Pro Ala Asn Pro Asp Glu Ile Gly Asn Phe Ile Asp Glu Asn Leu Lys  
805 810 815

Ala Ala Asp Thr Asp Pro Thr Ala Pro Pro Tyr Asp Ser Leu Leu Val  
820 825 830

Phe Asp Tyr Glu Gly Ser Gly Ser Glu Ala Ala Ser Leu Ser Ser Leu  
835 840 845

Asn Ser Ser Glu Ser Asp Lys Asp Gln Asp Tyr Asp Tyr Leu Asn Glu  
850 855 860

Trp Gly Asn Arg Phe Lys Lys Leu Ala Asp Met Tyr Gly Gly Gly Glu  
865 870 875 880

Asp Asp

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<223> EC1

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<222> (380)..(488)

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<222> (489)..(597)

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Val Ser Ser Trp Leu Cys Gln Glu Leu Glu Pro Glu Ser Cys Ser Pro  
20 25 30

Gly Phe Ser Ser Glu Val Tyr Thr Phe Pro Val Pro Glu Arg His Leu  
35 40 45

Glu Arg Gly His Val Leu Gly Arg Val Arg Phe Glu Gly Cys Thr Gly  
50 55 60

Arg Pro Arg Thr Ala Phe Phe Ser Glu Asp Ser Arg Phe Lys Val Ala  
65 70 75 80

Thr Asp Gly Thr Ile Thr Val Lys Arg His Leu Lys Leu His Lys Leu  
85 90 95

Glu Thr Ser Phe Leu Val Arg Ala Arg Asp Ser Ser His Arg Glu Leu  
100 105 110

Ser Thr Lys Val Thr Leu Lys Ser Met Gly His His His His Arg His  
115 120 125

His His Arg Asp Pro Ala Ser Glu Ser Asn Pro Glu Leu Leu Met Phe  
130 135 140

Pro Ser Val Tyr Pro Gly Leu Arg Arg Gln Lys Arg Asp Trp Val Ile  
145 150 155 160

Pro Pro Ile Ser Cys Pro Glu Asn Glu Lys Gly Glu Phe Pro Lys Asn  
165 170 175

Leu Val Gln Ile Lys Ser Asn Arg Asp Lys Glu Thr Lys Val Phe Tyr  
180 185 190

Ser Ile Thr Gly Gln Gly Ala Asp Lys Pro Pro Val Gly Val Phe Ile  
195 200 205

Ile Glu Arg Glu Thr Gly Trp Leu Lys Val Thr Gln Pro Leu Asp Arg  
210 215 220

Glu Ala Ile Ala Lys Tyr Ile Leu Tyr Ser His Ala Val Ser Ser Asn  
225 230 235 240

Gly Glu Ala Val Glu Asp Pro Met Glu Ile Val Ile Thr Val Thr Asp  
245 250 255

Gln Asn Asp Asn Arg Pro Glu Phe Thr Gln Pro Val Phe Glu Gly Phe  
260 265 270

Val Ala Glu Gly Ala Val Pro Gly Thr Ser Val Met Lys Val Ser Ala  
275 280 285

Thr Asp Ala Asp Asp Asp Val Asn Thr Tyr Asn Ala Ala Ile Ala Tyr  
290 295 300

Thr Ile Val Ser Gln Asp Pro Glu Leu Pro His Lys Asn Met Phe Thr  
305 310 315 320

Val Asn Arg Asp Thr Gly Val Ile Ser Val Leu Thr Ser Gly Leu Asp  
325 330 335

Arg Glu Ser Tyr Pro Thr Tyr Thr Leu Val Val Gln Ala Ala Asp Leu  
340 345 350

Gln Gly Glu Gly Leu Ser Thr Thr Ala Lys Ala Val Ile Thr Val Lys  
355 360 365

Asp Ile Asn Asp Asn Ala Pro Val Phe Asn Pro Ser Thr Tyr Gln Gly  
370 375 380

Gln Val Pro Glu Asn Glu Val Asn Ala Arg Ile Ala Thr Leu Lys Val  
385 390 395 400

Thr Asp Asp Asp Ala Pro Asn Thr Pro Ala Trp Lys Ala Val Tyr Thr  
405 410 415

Val Val Asn Asp Pro Asp Gln Gln Phe Val Val Val Thr Asp Pro Thr  
420 425 430

Thr Asn Asp Gly Ile Leu Lys Thr Ala Lys Gly Leu Asp Phe Glu Ala  
435 440 445

Lys Gln Gln Tyr Ile Leu His Val Arg Val Glu Asn Glu Glu Pro Phe  
450 455 460

Glu Gly Ser Leu Val Pro Ser Thr Ala Thr Val Thr Val Asp Val Val  
465 470 475 480

Asp Val Asn Glu Ala Pro Ile Phe Met Pro Ala Glu Arg Arg Val Glu  
485 490 495

Val Pro Glu Asp Phe Gly Val Gly Gln Glu Ile Thr Ser Tyr Thr Ala  
500 505 510

Arg Glu Pro Asp Thr Phe Met Asp Gln Lys Ile Thr Tyr Arg Ile Trp  
515 520 525

Arg Asp Thr Ala Asn Trp Leu Glu Ile Asn Pro Glu Thr Gly Ala Ile  
530 535 540

Phe Thr Arg Ala Glu Met Asp Arg Glu Asp Ala Glu His Val Lys Asn  
545 550 555 560

Ser Thr Tyr Val Ala Leu Ile Ile Ala Thr Asp Asp Gly Ser Pro Ile  
565 570 575

Ala Thr Gly Thr Gly Thr Leu Leu Leu Val Leu Leu Asp Val Asn Asp  
580 585 590

Asn Ala Pro Ile Pro Glu Pro Arg Asn Met Gln Phe Cys Gln Arg Asn  
595 600 605

Pro Gln Pro His Ile Ile Thr Ile Leu Asp Pro Asp Leu Pro Pro Asn  
610 615 620

Thr Ser Pro Phe Thr Ala Glu Leu Thr His Gly Ala Ser Val Asn Trp  
625 630 635 640

Thr Ile Glu Tyr Asn Asp Ala Ala Gln Glu Ser Leu Ile Leu Gln Pro  
645 650 655

Arg Lys Asp Leu Glu Ile Gly Glu Tyr Lys Ile His Leu Lys Leu Ala  
660 665 670

Asp Asn Gln Asn Lys Asp Gln Val Thr Thr Leu Asp Val His Val Cys  
675 680 685

Asp Cys Glu Gly Thr Val Asn Asn Cys Met Lys Ala Gly Ile Val Ala  
690 695 700

Ala Gly Leu Gln Val Pro Ala Ile Leu Gly Ile Leu Gly Gly Ile Leu  
705 710 715 720

Ala Leu Leu Ile Leu Ile Leu Leu Leu Leu Phe Leu Arg Arg Arg  
725 730 735

Thr Val Val Lys Glu Pro Leu Leu Pro Pro Asp Asp Asp Thr Arg Asp  
740 745 750

Asn Val Tyr Tyr Tyr Asp Glu Glu Gly Gly Gly Glu Glu Asp Gln Asp  
755 760 765

Phe Asp Leu Ser Gln Leu His Arg Gly Leu Asp Ala Arg Pro Glu Val  
770 775 780

Thr Arg Asn Asp Val Ala Pro Thr Leu Met Ser Val Pro Gln Tyr Arg  
785 790 795 800

Pro Arg Pro Ala Asn Pro Asp Glu Ile Gly Asn Phe Ile Asp Glu Asn  
805 810 815

Leu Lys Ala Ala Asp Ser Asp Pro Thr Ala Pro Pro Tyr Asp Ser Leu  
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Leu Val Phe Asp Tyr Glu Gly Ser Gly Ser Glu Ala Ala Ser Leu Ser  
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Ser Leu Asn Ser Ser Glu Ser Asp Gln Asp Gln Asp Tyr Asp Tyr Leu  
850 855 860

Asn Glu Trp Gly Asn Arg Phe Lys Lys Leu Ala Asp Met Tyr Gly Gly  
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Gly Glu Asp Asp

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21

<210> 4

<211> 21

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<213> Oct-3/4,size 528 bp,3'primer

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gcctcatact cttctcgttg g

21

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<211> 20

<212> DNA

<213> Rex1,size 930 bp,5'primer

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20

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<213> Rex1,size 930 bp,3'primer

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<210> 7

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<213> Nanog,size 930 bp,5'primer

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20

<210> 8

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<213> GAPDH,size 858 bp,5'primer

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19

<210> 10

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<213> GAPDH, size 858 bp,3'primer

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<213> NeuroD3, size 405 bp,5'primer

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<400> 12  
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19

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19

<210> 15  
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20

<210> 17  
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22

<210> 18  
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<213> Flk1, size 398 bp, 3'primer

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22

<210> 19  
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19

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<213> beta-H1, size 415 bp,3'primer

<400> 20  
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<400> 21  
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<210> 22  
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21